

mydophorus and *Dasyus* than between *Chlamydophorus* and *Tatusia*.

I am indebted to Dr. Young for the preparation of the accompanying illustrations.

EXPLANATION OF PLATE XLIII.

- Fig. 1. Male generative and urinary organs of *Chlamydophorus truncatus*, seen from the front. From above downwards are seen the suprarenal capsules, the kidneys and ureters, the testicles, the bladder and urethra, and the penis. The penis is hooked back to show the retractor muscles on its dorsal aspect.
2. Male organs of *Chlamydophorus truncatus*, perineal view. From above downwards are seen:—the penis, its basal portion being covered by the fibres of the bulbo-cavernosi muscles; below this the Cowperian glands lying in the interspace between the crura penis, these last being covered by the fibres of the ischio-cavernosi muscles.
3. Male organs of *Chlamydophorus* dissected, and seen from behind. K, kidney and suprarenal capsule; T, testicle; P, prostate gland; C, Cowper's gland; Pe, penis; Cp, crus penis.
4. Penis of *Dasyus sexcinctus*, showing the file-like structure on the lower aspect of its extremity.
5. Penis of *Dasyus sexcinctus* retracted within the prepuce.

4. Note on Points in the Anatomy of Levaillant's Darter (*Plotus levaillanti*). By A. H. GARROD, M.A., F.R.S.

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In a former communication¹ I had the opportunity of bringing before the Society several facts with reference to the anatomy of *Plotus ankinga*, and of confirming Mr. Macgillivray's account of its most peculiar proventriculus. Several specimens of the species have since passed through my hands which differ in no way from that first described.

On the 9th of March last the Society obtained for the first time, by purchase, a male specimen of Levaillant's Darter (*Plotus levaillanti*) from Senegal. It unfortunately died on the 7th of this month (May) from peritonitis, the result of a perforating ulcer in the stomach.

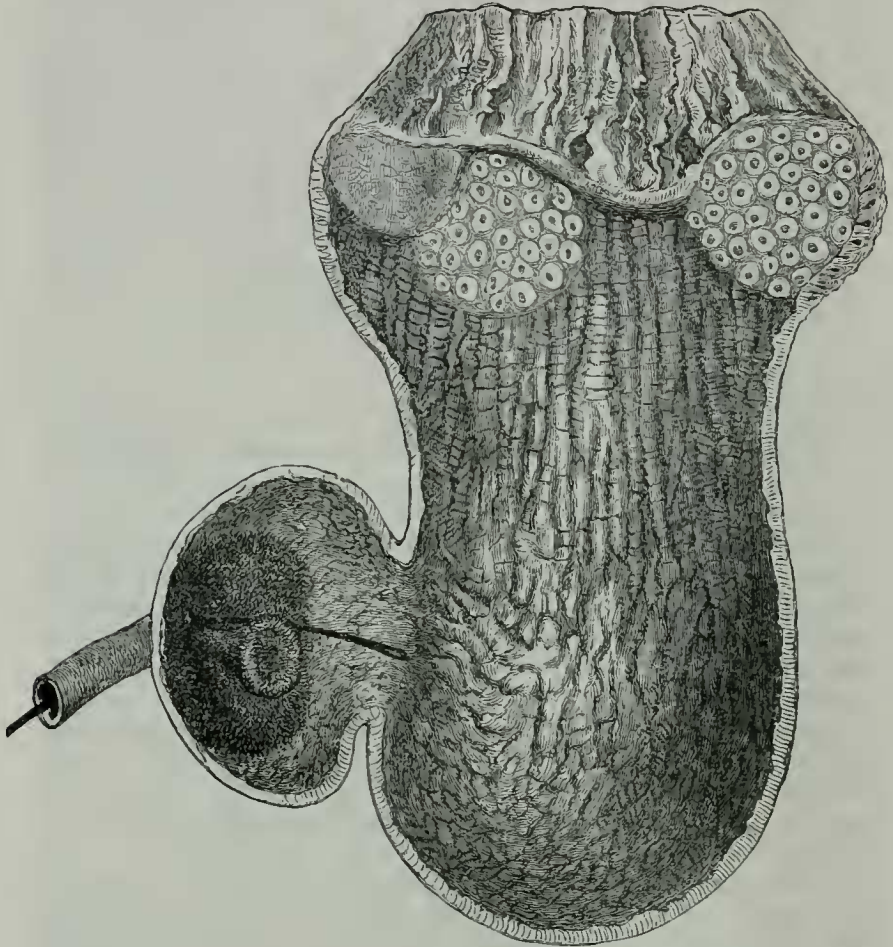
The severity of the peritonitis caused all the abdominal viscera to be agglutinated into a single mass, and rendered them particularly soft. Nevertheless I was able to disentangle most of the alimentary canal for examination; and it has proved of more than ordinary interest, as the following description will serve to show.

The tongue, as a free organ, is obsolete. The œsophagus is capacious, without any crop. The œsophageal epithelium ceases abruptly by a transverse line where the gastric portion of the canal commences, below which it is replaced by the tough yellow epithelium so characteristic of the situation.

The proventriculus is composed of two circular areas of deep glands, which latter are of considerable size and do not come into con-

¹ P. Z. S. 1876, p. 335.

tact, being situated laterally upon opposite sides of the gullet. These areas are flat, except at their upper margins, where a small transverse ridge is developed, which may be the slight foreshadowing of the special cavity developed in *Plotus anHINGA* for the reception of the secretion of the gastric glands. But in *P. levailanti* it is to be noticed that there are two gland-surfaces, whilst in *P. anHINGA* it will be remembered there is but one gland-cavity.



View of the inner surface of the posterior wall of the stomach of *Plotus levailanti*, with the œsophagus slit up anteriorly so as to show the whole of its proventricular surface, with the two gland-areas and the U-shaped elevation on its anterior wall (on the left of the figure), as well as the pyloric infundibuliform plug.

The calibre of the œsophagus must be somewhat diminished by the presence of a curious U-shaped ridge upon the mucous membrane of its anterior wall, which is situated between the antero-lateral margins of the gland-areas, and has a small pit in the part

corresponding to the surface between the limbs of the U, apparently not glandular in nature. All these structures are covered with the tough gastric epithelium, which ceases just above them.

The first true gastric cavity is larger than the second, though not much so. In the second the peculiar hairy covering of its pyloric portion is largely developed, and in a different manner from what it is in *P. ankinga*, where, as I have shown in my paper on the anatomy of that bird, it forms a kind of sieve to prevent large solid particles from entering the duodenum. In *P. levaillanti* a more elaborate arrangement obtains; the hairy epithelium surrounding the pyloric orifice, near the lower margin of the gastric surface of which it is developed, is produced into a considerable conical hair-covered process, projecting into the second stomach, and evidently acting as a valve to close the pylorus when necessary. In general appearance it much resembles the operculum of the Cheilostomatous Polyzoa, and is very striking at first sight, the hirsute conical plug when retracted, fitting exactly into the equally hirsute conical pyloric end of the second stomach-cavity. All the rest of the second stomach is lined with a non-hirsute epithelium, which ceases abruptly where it meets the hairy surface. I can find no trace of this operculum in *Plotus ankinga*, upon re-examination.

The small intestine measured two feet, and the large three inches; but they may have been contracted by the inflammation of their surfaces. Two minute cæca were clearly seen, one a little larger than the other. In *P. ankinga* there is no indication of a second cæcum.

As in *P. ankinga*, *P. levaillanti* possesses but one carotid artery, the left. In their myology the two species agree in every respect, as far as I can see. In *P. levaillanti* the ambiens is large, grooving the patella, the femoro-caudal is present without an accessorius, as is the semitendinosus. There is a slip from the biceps of the arm, which traverses the patagium; and the temporal muscles run back beyond the skull, being separated by a median fibrous raphé, which is *not* ossified into a separate bony style. The great pectoral muscle is formed of two layers.

Donitz's bridge is ossified, as in the specimen described by the author after whom it is named: it is developed on the ninth, and not on the eighth cervical vertebra, as I predicted would be the case.

The lower larynx is indistinguishable from that of *P. ankinga*.

It is interesting to notice that the Manatee and Dugong have special gastric gland-structures, the method of arrangement of which differs in exactly the same way as does that of the two species of *Plotus* under consideration, the peculiar flat gland-area found in *Halicore* and *Plotus levaillanti* being converted into a glandular cavity in *Manatus* and *Plotus ankinga*.